

Status: Currently Official on 18-Feb-2025
Official Date: Official Prior to 2013
Document Type: USP Monographs
DocId: GUID-F2E30F6D-3E8C-4762-B12C-127C8148AD1C_1_en-US
DOI: https://doi.org/10.31003/USPNF_M74775_01_01
DOI Ref: hyc7e

© 2025 USPC
Do not distribute

Selenious Acid

H₂SeO₃ 128.97
Selenium dioxide, monohydrated;
Selenious acid CAS RN®: 7783-00-8; UNII: F6A27P4Q4R.

DEFINITION
Selenious Acid contains NLT 93.0% and NMT 101.0% of H₂SeO₃.

IDENTIFICATION

- A.**
Sample: 50 mg
Analysis: Dissolve the *Sample* in 5 mL of water. Add 100 mg of sodium bicarbonate, and mix.
Acceptance criteria: Gas bubbles develop.
- B.**
Sample: 50 mg
Analysis: Dissolve the *Sample* in 5 mL of 0.1 N hydrochloric acid. Add 50 mg of stannous chloride.
Acceptance criteria: A curdy tan-orange precipitate is formed.

ASSAY

- PROCEDURE**
Sample solution: Transfer 100 mg to a suitable glass- stoppered flask, and dissolve in 50 mL of water.
Analysis: Add 10 mL of a 300-mg/mL potassium iodide solution and 5 mL of hydrochloric acid to the *Sample solution*, and mix. Insert the stopper in the flask, and allow to stand for 10 min. Add 50 mL of water and 3 mL of starch TS. Titrate with 0.1 N sodium thiosulfate VS until the solution is colorless, then titrate with 0.1 N iodine VS to a blue endpoint. Subtract the volume of 0.1 N iodine from the volume of 0.1 N sodium thiosulfate to obtain the volume of 0.1 N sodium thiosulfate equivalent to selenious acid. Each mL of 0.1 N sodium thiosulfate is equivalent to 3.225 mg of H₂SeO₃.
Acceptance criteria: 93.0%–101.0%

IMPURITIES

- RESIDUE ON IGNITION (281).**
Sample: 10 g
Acceptance criteria: NMT 1.0 mg (0.01%)
- INSOLUBLE MATTER**
Sample: 1 g
Analysis: Dissolve the *Sample* in 5 mL of water.
Acceptance criteria: It dissolves completely, and the solution is clear.
- SELENATE AND SULFATE**
Sample solution: Dissolve 0.5 g in 10 mL of water.
Analysis: Add 0.1 mL of hydrochloric acid and 1 mL of barium chloride TS to the *Sample solution*, and mix.
Acceptance criteria: No turbidity or precipitate is formed in 10 min.

ADDITIONAL REQUIREMENTS

- PACKAGING AND STORAGE:** Preserve in tight containers.

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
SELENIOS ACID	Documentary Standards Support	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. PF 29(5)

Current DocID: GUID-F2E30F6D-3E8C-4762-B12C-127C8148AD1C_1_en-US

DOI: https://doi.org/10.31003/USPNF_M74775_01_01

DOI ref: [hyc7e](#)

OFFICIAL